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09/770,112	01/24/2001	Jean-Michel Moutin	859063.490	5354

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EXAMINER	
WONG, ALLEN C	
ART UNIT	PAPER NUMBER
2621	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/770,112	MOUTIN, JEAN-MICHEL	
	Examiner	Art Unit	
	Allen Wong	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,8-14,16-24,27 and 28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,8-14,16-24,27 and 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/30/06 has been entered.

Response to Arguments

1. Applicant's arguments filed 10/30/06 have been fully read and considered but they are not persuasive.

Regarding lines 16-18 on page 8, and lines 2-3 and 11-14 on page 9 of applicant's remarks, applicant asserts that Sun does not disclose prioritizing the received coded images. The examiner respectfully disagrees. In figure 8, Sun discloses the elements 60, 61 and 65 that receive the prioritized data of the coded image data. Thus, Sun discloses prioritizing the received coded images.

Regarding lines 21-22 on page 8 of applicant's remarks, applicant states that Sun is not an appropriate primary reference. The examiner respectfully disagrees. In figure 8, Sun discloses the variable length decoder 64 that decodes the image data sequences. Thus, Sun discloses the decoding the coded images using the single MPEG decoder, thereby decoded images of first and second images sequences. Thus, Sun is an appropriate primary reference.

Regarding lines 6-10 on page 9 of applicant's remarks, applicant states that the examiner did not address the argument that "receiving a first sequence of frame-interlaced coded images and a second sequence of non-frame-interlaced coded images. The examiner respectfully disagrees. In figure 8, Sun discloses image sequence data is received at element 65, where fields (non-frame) are received as well as interlaced frames. The use of interlaced frames formed from interlaced fields (non-frame) data is well known to one of ordinary skill in the MPEG encoding standard.

Regarding lines 15-17 and 21-22 on page 9 of applicant's remarks, applicant states that Sun does not disclose decoding the coded images using the single MPEG decoder. The examiner respectfully disagrees. In figure 8, Sun discloses the variable length decoder 64 that decodes the image data sequences. Thus, Sun discloses the decoding the coded images using the single MPEG decoder, thereby decoded images of first and second images sequences. Thus, Sun is an appropriate primary reference.

Regarding lines 23-28 on page 9 of applicant's remarks, applicant states that Fukushima teaches away from the present invention, and that the combination of Sun and Fukushima would not yield the present invention. The examiner respectfully disagrees. Fukushima teaches the decoding images from more than one MPEG stream, as noted in Fukushima's figure 4, where elements 115-118 are MPEG decoders that can decode images from more than one MPEG stream. Also Fukushima discloses elements 12 and 22 of figs.7, 12, 13, and 15, as well as figure 10, elements 231 and 232. So Fukushima was applied to meet the deficiencies of Sun.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sun and Fukushima, as a whole, for efficiently decoding high quality images, saving financial costs by robustly reducing hardware requirements, as disclosed in Fukushima's column 3, lines 58-64.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Thus, the combination of Sun and Fukushima is appropriate and reasonably combinable because both Sun and Fukushima pertain to the same, analogous MPEG encoding/decoding environment.

Claims 17 and 27 are rejected for similar reasons as claim 10 by dependency.

Regarding lines 26 on page 10 to line 3 on page 11 of applicant's remarks, applicant contends that Sun, Fukushima and Oku does not disclose or suggest an MPEG decoder... structured to decode several coded images from at least two MPEG streams simultaneously in a plurality of periods, and that Fukushima teaches away from using a priority to simultaneously to decode more than one MPEG stream. The examiner respectfully disagrees. In response to applicant's argument that Sun, Fukushima and Oku are not combinable, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious

to one of ordinary skill in the art to combine the teachings of Sun, Oku and Fukushima, as a whole, for efficiently decoding high quality images, saving financial costs by robustly reducing hardware requirements, as disclosed in Fukushima's column 3, lines 58-64.

Regarding lines 9-12 on page 11 of applicant's remarks, applicant argues that Sun is not an appropriate primary reference because it does not disclose or suggest "a priority assignment circuit..." as in claim 1 or "prioritizing the decoding commands..." as in claim 8. The examiner respectfully disagrees. In column 8, lines 19-26, Sun discloses the decoding commands inputted from 370 are then relayed to the decompress controller 360 and then to element 64, where decoder state sequence or image type is sequenced or prioritized during decoding. Thus, Sun discloses "a priority assignment circuit..." or "prioritizing the decoding commands...".

Regarding lines 12-15 on page 11 of applicant's remarks, applicant states that Oku does not disclose decoding priority levels to image sequences during a synchronization period, let alone priority assignments based on image type. And how Sun, Fukushima and Oku would not disclose or suggest the present invention. The examiner respectfully disagrees. As stated above, in column 8, lines 19-26, Sun discloses the decoding commands inputted from 370 are then relayed to the decompress controller 360 and then to element 64, where decoder state sequence or image type is sequenced or prioritized during decoding. Sun does not specifically disclose the series of synchronizing periods, however, Oku teaches the use of synchronization periods, as disclosed in figure 11, where the use of horizontal and

vertical synchronization signals with the display period. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sun and Oku, as a whole, for efficiently and precisely decoding image data by minimized circuitry, memory and hardware requirements, as disclosed in Oku column 3, lines 25-48.

Regarding lines 18-21 on page 11 of applicant remarks, applicant states that the use of periods is not disclosed. The examiner respectfully disagrees. In figure 11, Oku teaches the use of horizontal and vertical synchronization signals with the display period for synchronizing the display or decoding of images. Thus, Oku discloses the use of synchronization periods. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sun and Oku, as a whole, for efficiently and precisely decoding image data by minimized circuitry, memory and hardware requirements, as disclosed in Oku's column 3, lines 25-48.

The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have

suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claims 2, 3, 5 depend from claim 1, and claim 9 depends from claim 8 are rejected for similar reasons as claims 1 and 8. Claims 11-14, 16 and 28 are rejected for similar reasons as claim 10.

Regarding lines 4-7 on page 12 of applicant's remarks, applicant asserts that the prior art does not disclose "prioritizing the received coded images..." The examiner respectfully disagrees. For reasons as stated in the rejection and the above, In column 8, lines 19-26, Sun discloses the decoding commands inputted from 370 are then relayed to the decompress controller 360 and then to element 64, where decoder state sequence or image type is sequenced or prioritized during decoding. Sun does not specifically disclose the series of synchronizing periods, however, Oku teaches the use of synchronization periods, as disclosed in figure 11, where the use of horizontal and vertical synchronization signals with the display period. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sun and Oku, as a whole, for efficiently and precisely decoding image data by minimized circuitry, memory and hardware requirements, as disclosed in Oku column 3, lines 25-48.

Similarly, claim 18 is rejected for similar reasons as claims 1 and 8 for reasons as stated above and in the rejection below. Dependent claims 19-24 are rejected for similar reasons as claim 18 by dependency.

Regarding last paragraph on page 12 of applicant's remarks, applicant asserts that Sun, Fukushima and Oku, separately or in combination, do not disclose or suggest an MPEG decoder configured to decode a plurality of MPEG image sequences in parallel. The examiner respectfully disagrees. In Fukushima's figure 4, there are decoders 115-116, 117 and 118 that are decoders used to decode MPEG images, and that elements 115-118 are in parallel of one another. Thus, when using Fukushima in combination with Sun and Oku as a whole, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sun, Oku and Fukushima, as a whole, for efficiently decoding high quality images, saving financial costs by robustly reducing hardware requirements, as disclosed in Fukushima's column 3, lines 58-64.

Thus, the rejection is maintained.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 10, 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun (5,455,629) in view of Fukushima (6,477,204).

Regarding claims 10, 17 and 27, Sun discloses a method for decoding a plurality of MPEG sequences simultaneously using a single MPEG decoder, comprising:

receiving a first sequence of frame-interlaced coded images and a second sequence of non-frame interlaced coded images (fig.8, note image sequence data is received at element 65, where fields (non-frame) are received as well as interlaced frames);

receiving a stream of decoding commands, each decoding command corresponding to a respective one of the coded images (col.12, ln.33-52 and fig.8, element 360 receives decoding commands and element 370 functions together with 360 for processing decoding commands of the image data);

prioritizing the received coded images based on whether the coded image is a frame-interlaced coded image and on when the corresponding decoding command was received (fig.8, note elements 60, 61 and 65 receive the priority data of the coded image data);

decoding the coded images using the single MPEG decoder based on the prioritizing, thereby producing decoded images of first and second images sequences (fig.8, element 64 is the variable length decoder that decodes the image data sequences);

saving the decoded images (fig.8, element 66, 314 and 316 store decoded image data).

Sun does not specifically disclose decoding images from more than one MPEG stream. However, Fukushima teaches the decoding images from more than one

MPEG stream (fig.4, note elements 115-118 are MPEG decoders that can decode images from more than one MPEG stream; also see elements 12 and 22 of figs.7, 12, 13, and 15; see fig 10, elements 231 and 232). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sun and Fukushima, as a whole, for efficiently decoding high quality images, saving financial costs by robustly reducing hardware requirements (Fukushima's col.3, ln.58-64).

Claims 1-3, 5, 8, 9, 11-14, 16, 18-24 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun (5,455,629) and Oku (5,880,786) in view of Fukushima (6,477,204).

Regarding claims 1, 8, 18, 19 and 22-24, Sun discloses a device and method for prioritizing MPEG images to be decoded by a single MPEG decoder, the method, comprising:

receiving first and second image sequences of coded images, each coded image having a frame interlaced image type (fig.8, note image sequence data is received at element 65, and col.1, ln.26-28 disclose I, P and B images are plural image types of MPEG);

receiving a stream of decoding commands in a series of synchronizing periods, each decoding command corresponding to a respective one of the coded images (col.12, ln.33-52 and fig.8, element 360 receives decoding commands and element 370 functions together with 360 for processing decoding commands of the image data);

adding each decoding command to a priority list (fig.8, note elements 60, 61 and 65 receive the priority data of the coded image data);

prioritizing the decoding commands by assigning to each decoding command a priority level based on the image type of the coded image corresponding to the decoding command (col.8, ln.19-26, note decoding commands inputted from 370 are then relayed to the decompress controller 360 and then to element 64, where decoder state sequence or image type is sequenced or prioritized during decoding);

decoding the coded images in a priority order based on the priorities assigned to the coded images, thereby producing first and second images sequences of decoded images (fig.8, element 64 is the variable length decoder that decodes the image data sequences); and

displaying the first and second image sequences (fig.8, note image data is displayed at VIDEO OUT, where a video display RAM precedes the video output).

Although Sun does not specifically disclose the series of synchronizing periods, however, Oku teaches the use of synchronization periods (fig.11; note the use of horizontal and vertical synchronization signals with the display period). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sun and Oku, as a whole, for efficiently and precisely decoding image data by minimized circuitry, memory and hardware requirements (Oku col.3, ln.25-48).

Sun and Oku do not specifically disclose decoding images from more than one MPEG stream. However, Fukushima teaches the decoding images from more than one MPEG stream (fig.4, note elements 115-118 are MPEG decoders that can decode images from more than one MPEG stream; also see elements 12 and 22 of figs.7, 12, 13, and 15; see fig 10, elements 231 and 232). Therefore, it would have been obvious

to one of ordinary skill in the art to combine the teachings of Sun, Oku and Fukushima, as a whole, for efficiently decoding high quality images, saving financial costs by robustly reducing hardware requirements (Fukushima's col.3, ln.58-64).

Regarding claims 2 and 20, Sun discloses wherein the decoder control circuit further includes a pointer memory for storing the beginning addresses of each of the images to be displayed (fig.8, element 370 and 360 are used to aid the storage of images to be displayed).

Regarding claim 3, Sun discloses wherein said decoder control circuit further includes a safety circuit for adding a predetermined header before each image provided to the decoder so that two images put end to end cannot form a code that causes a malfunction of the decoder (fig.2, note headers are inserted to differentiate image as seen in L3 where a picture type and header can be used, further, there are more headers that can be utilized to prevent decoder malfunctions).

Regarding claim 5, Sun discloses further comprising:

a memory that stores coded data and decoded data (fig.8, element 316); a first bus that connects the decoder control circuit to the memory (fig.8, note connection between elements 360 and 316); a display control circuit connected between a screen and the first bus (fig.8, element 370 connected to user input and the video display RAM); and a microprocessor connected by a second bus to the decoder control circuit and the display control circuit (fig.8, note connections are interconnected between elements 306, 308, 360 and 370).

Regarding claims 16 and 21, the examiner takes Official Notice because interlace and non-interlace or progressive images are typically used and well known in MPEG.

Regarding claims 9, 14 and 28, Sun discloses prioritizing the decoding commands by assigning to each decoding command a priority level based on the image type of the coded image corresponding to the decoding command (col.8, ln.19-26, note decoding commands inputted from 370 are then relayed to the decompress controller 360 and then to element 64, where decoder state sequence or image type is sequenced or prioritized during decoding) and assigning a higher priority to the first image (fig.8, note HP is the higher priority and LP is the lower priority).

Sun does not specifically disclose the use of synchronizing periods, however, Oku teaches the use of synchronization periods (fig.11; note the use of horizontal and vertical synchronization signals with the display period). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sun and Oku, as a whole, for efficiently and precisely decoding image data by minimized circuitry, memory and hardware requirements (Oku col.3, ln.25-48).

Regarding claims 11-13, Sun discloses prioritizing the decoding commands by assigning to each decoding command a priority level based on the image type of the coded image corresponding to the decoding command (col.8, ln.19-26, note decoding commands inputted from 370 are then relayed to the decompress controller 360 and then to element 64, where decoder state sequence or image type is sequenced or prioritized during decoding).

Sun does not specifically disclose the series of synchronizing periods, however, Oku teaches the use of synchronization periods (fig.11; note the use of horizontal and vertical synchronization signals with the display period). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sun and Oku, as a whole, for efficiently and precisely decoding image data by minimized circuitry, memory and hardware requirements (Oku col.3, ln.25-48).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Groody can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Allen Wong
Primary Examiner
Art Unit 2621

AW
1/22/07